*Cancel claims 1-25*

*Add claims 26-100*

26. An image coding method comprising generating an ordered sequence of coded image data, the sequence beginning with coded data representative of an area of the image having high importance, and ending with coded data representative of an area of the image having lower importance, wherein the image is one of a sequence of images, the image is compared to a reference image determined using preceding images of the sequence and the coding method is used to code differences between the image and the reference image in a coding loop, wherein when an image is coded to a lower resolution than an immediately preceding image, on adding the image to the reference image, artefacts at high resolution in the reference image are removed by setting the higher resolution data to zero so that the resolution of the reference image corresponds to the resolution of the image that was coded, thereby allowing the amount of data which is used to represent the coded images to be increased or decreased, to adjust the amount of coded data to match an available bandwidth.

27. An image coding method according to claim 26, wherein the importance of the image areas represented by the coded data decreases gradually over the ordered sequence.

28. An image coding method according to claim 27, wherein the image data coding sequence is arranged in a substantially spiral configuration centred on the area of importance.

29. An image coding method according to claim 26, wherein the area of importance is at a location selected as the most likely centre point of foveated vision of a viewer of the image.

30. An image coding method according to claim 29, wherein the area of importance is at a centre point of the image.

31. An image coding method according to claim 26, wherein the method includes converting an image into a multi-resolution representation, different resolution representations of the image being coded in sequence, the order of the sequence being determined to reflect psychophysical aspects of human vision.

32. An image coding method according to claim 31, wherein according to the sequence a luminance representation of the image is coded before chrominance representations of the image.

33. An image coding method according to claim 32, wherein for a given level of resolution, the luminance representation is arranged to include more resolution than the chrominance representations.

34. An image coding method according to claim 31, wherein the multi-resolution representation is generated using a wavelet transform, and the coding sequence comprises wavelet representation of the image which increase from a low level of resolution to a high level of resolution.

35. An image coding method according to claim 34, wherein wavelet orientations of horizontal and vertical image components are coded before wavelet orientations of diagonal image components.

36. An image coding method according to claim 35, wherein wavelet orientations of diagonal image components of a given level of resolution are coded after wavelet orientations of horizontal and vertical image components of a higher resolution.

37. An image coding method according to claim 26, wherein the method is implemented as part of a communications system, and the amount of coded information output by the method for a given image is determined on an image by image basis in accordance with the available bandwidth of the communications system.

38. An image coding method according to claim 37, wherein where necessary in order to fully utilise the available bandwidth of the communications system includes a truncated sequence of coded image data, image data representative of areas of least importance having been excluded from the truncated sequence.

39. An image coding method according to claim 26, wherein a predetermined code is added to a sequence to indicate the end of image data representative of a particular aspect of the image.

40. An image coding method according to claim 26, wherein scalar quantisation is used to minimise the amount of image data to be coded, the scalar quantisation being based upon a psychophysical model.

42. An image coding method according to claim 41, wherein the method includes a choice between image data that has been coded using motion estimation and data that has been coded without using motion estimation, the choice being made upon the basis of minimising distortion of the coded image.

43. An image coding method according to claim 26, wherein the method includes vector quantisation of the image, the vector quantisation being implemented using a self organising neural map to provide image data in the form of indices of a codebook.

44. An image coding method according to claim 34, wherein the method includes vector quantisation of the image, the vector quantisation being implemented using a self organising neural map to provide image data in the form of indices of a codebook.

45. An image coding method according to claim 44, wherein a threshold is applied to the magnitude of wavelet coefficients, and those which fall below the thresholds are converted to zero coefficients.

46. An image coding method according to claim 44, wherein different codebooks are used for different sub-bands of the wavelet representation of the image.

47. An image coding method according to claim 43, wherein the indices of the codebook are subsequently coded using variable length entropy coding.

48. An image coding method according to claim 47, wherein a series of zero indices followed by a non-zero index is coded as a pair of values by the variable length entropy coding, a first value representing the number of zero indices in the series and the second value representing the value of the non-zero index.

49. An image coding method according to claim 47, wherein a threshold is applied to the indices of the codebook, and those indices which fall below the threshold are converted to zero indices.

50. An image coding method according to claim 49, wherein wavelet coefficients which fall above the threshold are reduced by the value of the threshold.

51. An image coding and decoding method comprising:

generating an ordered sequence of coded image data, the sequence beginning with coded data representative of an area of the image having high importance, and ending with coded data representative of an area of the image having lower importance, wherein the image is one of a sequence of images, the image is compared to a reference image determined using preceding images of the sequence and the coding method is used to code differences between the image and the reference image in a coding loop; and

subsequently decoding the coded data by adding the coded data to a reference image in a coding loop, wherein when a coded image has been coded to a lower resolution than an immediately preceding image, on adding the coded image to the reference image during decoding, artefacts at high resolution in the reference image are removed by setting the higher

resolution data to zero so that the resolution of the reference image corresponds to the resolution of the coded image.

52. An image coding and decoding method according to claim 51, wherein the importance of the image areas represented by the coded data decreases gradually over the ordered sequence.

53. An image coding and decoding method according to claim 52, wherein the image data coding sequence is arranged in a substantially spiral configuration centred on the area of importance.

54. An image coding and decoding method according to claim 51, wherein the area of importance is at a location selected as the most likely centre point of foveated vision of a viewer of the image.

55. An image coding and decoding method according to claim 54, wherein the area of importance is at a centre point of the image.

56. An image coding and decoding method according to claim 51, wherein the method includes converting an image into a multi-resolution representation, different resolution representations of the image being coded in sequence, the order of the sequence being determined to reflect psychophysical aspects of human vision.

57. An image coding and decoding method according to claim 56, wherein according to the sequence a luminance representation of the image is coded before chrominance representations of the image.

58. An image coding and decoding method according to claim 57, wherein for a given level of resolution, the luminance representation is arranged to include more resolution than the chrominance representations.

59. An image coding and decoding method according to claim 56, wherein the multi-resolution representation is generated using a wavelet transform, and the coding sequence comprises wavelet representation of the image which increase from a low level of resolution to a high level of resolution.

60. An image coding and decoding method according to claim 59, wherein wavelet orientations of horizontal and vertical image components are coded before wavelet orientations of diagonal image components.

61. An image coding and decoding method according to claim 60, wherein wavelet orientations of diagonal image components of a given level of resolution are coded after wavelet orientations of horizontal and vertical image components of a higher resolution.

62. An image coding and decoding method according to claim 51, wherein the method is implemented as part of a communications system, and the amount of coded information output by the method for a given image is determined on an image by image basis in accordance with the available bandwidth of the communications system.

63. An image coding and decoding method according to claim 62, wherein where necessary in order to fully utilise the available bandwidth of the communications system includes a truncated sequence of coded image data, image data representative of areas of least importance having been excluded from the truncated sequence.

64. An image coding and decoding method according to claim 51, wherein a predetermined code is added to a sequence to indicate the end of image data representative of a particular aspect of the image.

65. An image coding and decoding method according to claim 51, wherein scalar quantisation is used to minimise the amount of image data to be coded, the scalar quantisation being based upon a psychophysical model.

66. An image coding and decoding method according to claim 51, wherein the method includes an estimation of motion within an image as compared with a reference image, and the estimated motion is included in the coded image data.

67. An image coding and decoding method according to claim 66, wherein the method includes a choice between image data that has been coded using motion estimation and data that has been coded without using motion estimation, the choice being made upon the basis of minimising distortion of the coded image.

68. An image coding and decoding method according to claim 51, wherein the method includes vector quantisation of the image, the vector quantisation being implemented using a self organising neural map to provide image data in the form of indices of a codebook.

69. An image coding and decoding method according to claim 59, wherein the method includes vector quantisation of the image, the vector quantisation being implemented using a self organising neural map to provide image data in the form of indices of a codebook.

70. An image coding and decoding method according to claim 69, wherein a threshold is applied to the magnitude of wavelet coefficients, and those which fall below the threshold are converted to zero coefficients.

71. An image coding and decoding method according to claim 69, wherein different codebooks are used for different sub-bands of the wavelet representation of the image.

72. An image coding and decoding method according to claim 68, wherein the indices of the codebook are subsequently coded using variable length entropy coding.

73. An image coding and decoding method according to claim 72, wherein a series of zero indices followed by a non-zero index is coded as a pair of values by the variable length entropy coding, a first value representing the number of zero indices in the series and the second value representing the value of the non-zero index.

74. An image coding and decoding method according to claim 73, wherein a threshold is applied to the indices of the codebook, and those indices which fall below the threshold are converted to zero indices.

75. An image coding and decoding method according to claim 74, wherein wavelet coefficients which fall above the threshold are reduced by the value of the threshold.

76. An image decoding method comprising decoding coded data by adding the coded data to a reference image in a coding loop, wherein when a coded image has been coded to a lower resolution than an immediately preceding image, on adding the coded image to the reference image during decoding, artefacts at high resolution in the reference image are removed by setting the higher resolution data to zero so that the resolution of the reference image corresponds to the resolution of the coded image.

77. An image decoding method according to claim 76, wherein the importance of the image areas represented by the coded data decreases gradually over the ordered sequence.

78. An image decoding method according to claim 77, wherein the image data coding sequence is arranged in a substantially spiral configuration centred on the area of importance.

79. An image decoding method according to claim 76, wherein the area of importance is at a location selected as the most likely centre point of foveated vision of a viewer of the image.

80. An image decoding method according to claim 79, wherein the area of importance is at a centre point of the image.

81. An image decoding method according to claim 76, wherein the method includes converting an image into a multi-resolution representation, different resolution representations of the image being coded in sequence, the order of the sequence being determined to reflect psychophysical aspects of human vision.

82. An image decoding method according to claim 81, wherein according to the sequence a luminance representation of the image is coded before chrominance representations of the image.

83. An image decoding method according to claim 82, wherein for a given level of resolution, the luminance representation is arranged to include more resolution than the chrominance representations.

84. An image decoding method according to claim 81, wherein the multi-resolution representation is generated using a wavelet transform, and the coding sequence comprises wavelet representation of the image which increase from a low level of resolution to a high level of resolution.

85. An image decoding method according to claim 84, wherein wavelet orientations of horizontal and vertical image components are coded before wavelet orientations of diagonal image components.

86. An image decoding method according to claim 85, wherein wavelet orientations of diagonal image components of a given level of resolution are coded after wavelet orientations of horizontal and vertical image components of a higher resolution.

87. An image decoding method according to claim 76, wherein the method is implemented as part of a communications system, and the amount of coded information output by the method for a given image is determined on an image by image basis in accordance with the available bandwidth of the communications system.

88. An image decoding method according to claim 87, wherein where necessary in order to fully utilise the available bandwidth of the communications system includes a truncated sequence of coded image data, image data representative of areas of least importance having been excluded from the truncated sequence.

89. An image decoding method according to claim 76, wherein a predetermined code is added to a sequence to indicate the end of image data representative of a particular aspect of the image.

90. An image decoding method according to claim 76, wherein scalar quantisation is used to minimise the amount of image data to be coded, the scalar quantisation being based upon a psychophysical model.

91. An image decoding method according to claim 76, wherein the method includes an estimation of motion within an image as compared with a reference image, and the estimated motion is included in the coded image data.

92. An image decoding method according to claim 91, wherein the method includes a choice between image data that has been coded using motion estimation and data that has been coded without using motion estimation, the choice being made upon the basis of minimising distortion of the coded image.

93. An image decoding method according to claim 76, wherein the method includes vector quantisation of the image, the vector quantisation being implemented using a self organising neural map to provide image data in the form of indices of a codebook.

94. An image decoding method according to claim 84, wherein the method includes vector quantisation of the image, the vector quantization being implemented using a self organising neural map to provide image data in the form of indices of a codebook.

95. An image decoding method according to claim 94, wherein a threshold is applied to the magnitude of wavelet coefficients, and those which fall below the threshold are converted to zero coefficients.

97. An image decoding method according to claim 93, wherein the indices of the codebook are subsequently coded using variable length entropy coding.

98. An image decoding method according to claim 97, wherein a series of zero indices followed by a non-zero index is coded as a pair of values by the variable length entropy coding, a first value representing the number of zero indices in the series and the second value representing the value of the non-zero index.

99. An image decoding method according to claim 97, wherein a threshold is applied to the indices of the codebook, and those indices which fall below the threshold are converted to zero indices.

100. An image decoding method according to claim 99, wherein wavelet coefficients which fall above the threshold are reduced by the value of the threshold.--